Creams Presentation

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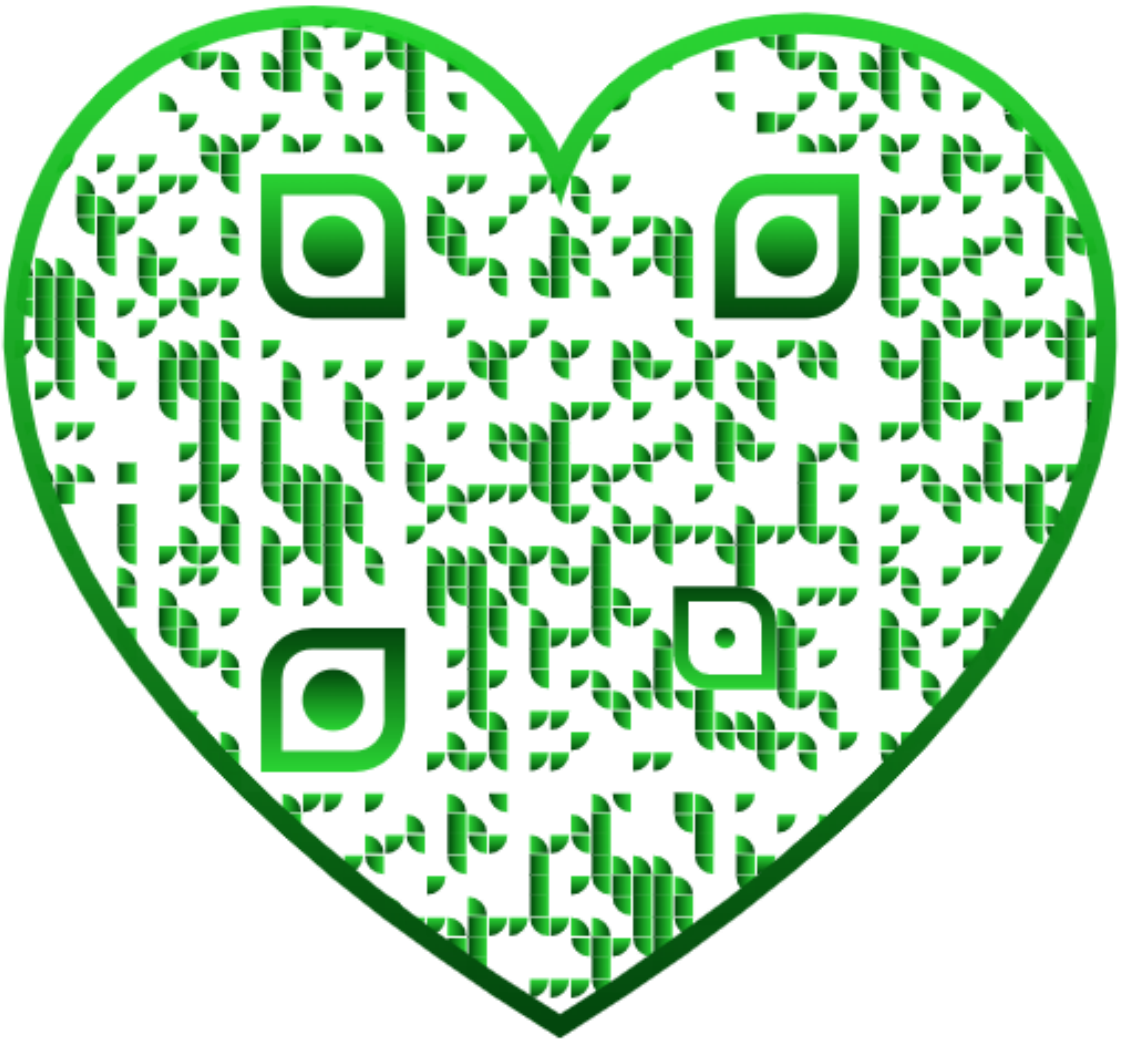

TOPICAL DRUG DELIVERY

- **Topical delivery can be defined as the application of a drug containing formulation to the skin to directly treat cutaneous disorder or the cutaneous manifestations of a general disease (eg:-psoriasis) with the intent of containing the pharmacological or the effect of drug to the surface of the skin or within the skin semi-solid formulations in all their diversity dominate the system for topical delivery , but foams, spray , medicated powders, solutions and even medicated adhesive systems are in use.**

Creams

POND'S
lasting oil control
vanishing cream
Normal to oily

POND'S
moisturising
cold cream
skin nutrients + moisturiser

- **Creams: are white, semisolid preparations, often medicated, intended or external application to the skin and mucous membranes.** (Alton 449)

- *CREAMS* : **Pharmaceutical creams are semisolid preparations containing one or more medicinal agents dissolved or dispersed in either a W/O emulsion or an oil-in-water emulsion or in another type of water-washable base.** (Ansel 278)

Advantages of creams :.

1. Preferable – spreads readily, less greasy, soothing.
2. oil and water remain well mixed by adding emulsifying agents.
3. Oily cream (water-in-oil) – emollient & cleansing .
4. Non-greasy aqueous cream (oil-in-water) – most useful as Water washable base .
5. A large number of topical drugs are manufactured in a cream Base, e.g. hydrocortisone cream .

Disadvantages of creams:.

1• Water-in-oil creams are more difficult to handle but Many drugs which are incorporated into creams are Hydrophobic and will be released more readily from a Water-in-oil cream than an oil-in-water cream.

2• Water-in-oil creams are also more moisturising as they provide an oily barrier which reduces water loss From the stratum corneum, the outmost layer of the Skin.

3• Creams are susceptible to microbial growth.

Types of creams :.

- A cream may be 'water-in-oil' or 'oil-in-water' depending on the emulsifying agent used.

- . A cream is always miscible with its continuous phase.

Formulation of aqueous creams:.

- In the preparation of o/w creams, sparingly soluble fatty amphiphiles combined with more water-soluble ionic or ionic surfactants are widely used .
- The components of the emulsifier may be added separately during the preparation of the cream, or alternatively in the form of a pre-blended emulsifying wax .
- Some emulsifier com-binations contain the same components (e.g. fatty alcohols and ionic surfactants) as those investigated originally by Schulman and Cockbain in their.
- . Creams are formulated to provide preparations that are essentially miscible with the skin secretion. They are intended to be applied to the skin or certain mucous membranes for protective, therapeutic or prophylactic purposes, especially where an occlusive effect is not necessary.

Cosmetic Creams

Cosmetic Creams USP

1- **Creams are defined as semisolid and white emulsions of either O/W or W/O type.**

2- Prepared with cetyl esters wax, white wax, mineral oils, sodium borate and purified water.

3- Creams are usually employed as emollients or as medicated application to the skin.

Classification of Cosmetic Creams

- **Emulsion defines the performance of the product such as emollient, vanishing, shaving, and foundation creams.**

- **Emulsion serves as a vehicle for an active principle for example nourishing, sunscreen, and antiperspirant creams.**

Cold Cream

NEW
Dabur
Gulabari
MOISTURISING
COLD CREAM
WITH NATURAL ROSE OIL

Cold Cream

Semisolid, white, water in oil (W/O) emulsion prepared with cetyl esters wax, white wax, mineral oils, sodium borate and purified water.

Emollient, Cold or Night Cream

Emollient creams serve against unfavorable environmental conditions.

Cold cream can be used as ointment base.

The cooling sensation is produced by the slow evaporation of the water content present in the internal phase of the cream.

Cold creams are used at night for nourishing the skin and as smoothing agent for chapped skin. It is used generally in the summer.

They have good spreadability, to ensure it the melting point of oil phase should be no more than 37c^{o}

Cold Cream

Rx

Purified water	**24 g**
Borax	**Q.S**
Olive oil	**50 g**
White beeswax	**12.5 g**
White soft paraffin	**12.5 g**

Fiat: cream

Mitte: 10 g

Sig. m.d.u

Design of creams :

- creams are usually packaged with an applicator to facilitate measurement of the dose. They are messy but soothing to irritated tissues.
- creams are dispersed systems that can overlap in their composition.
- cream formulations contain lipid and water phases and must be stabilized with emulsifying agents to maintain their uniformity.

Differences between cold and vanishing creams

Property	Cold cream	Vanishing cream
1-Type of emulsion	W/O	O/W
2- Oil content	45% - 80%	15% - 30%
3- Water content	25%	80%
4- Emulsifying agent	Sodium salt produced by reaction between fatty acid in beeswax and NaOH in borax.	Potassium salt produced by reaction between stearic acid and KOH
5- Time of use	Night	Day
6- humectant	Not incorporated	Is incorporated
6- Appearance	Shinny	Not shinny

some uses of creams

TABLE 10.1 DERMATOLOGIC OINTMENTS AND CREAMS BY THERAPEUTIC CATEGORY

PREPARATION	CORRESPONDING COMMERCIAL PRODUCT	USUAL STRENGTH OF ACTIVE INGREDIENT	USE
Adrenocortical Steroids			
Alclometasone dipropionate cream and ointment	Aclovate Cream and Ointment (GlaxoSmithKline)	0.05% cream and ointment	Relief of inflammatory dermatoses
Fluocinolone acetonide cream, ointment	Synalar Cream & Ointment (Roche)	0.025% cream and ointment	Relief of inflammatory dermatoses
Hydrocortisone acetate cream, ointment	Cortaid Cream and Ointment (Pharmacia)	0.5% and 1%	Relief of inflammatory dermatoses
Triamcinolone acetonide cream, ointment	Aristocort A Cream and Ointment (Fujisawa Healthcare)	0.1% ointment; 0.1%, 0.025%, 0.5% cream	Relief of inflammatory dermatoses
Adrenocorticoid–Antifungal Combination			
Betamethasone, clotrimazole cream	Lotrisone Cream (Schering)	0.05% betamethasone, 1% clotrimazole	Relief, treatment of inflammatory pruritic manifestations that may be complicated by fungal overgrowth
Analgesic			
Capsaicin cream	Zostrix Cream (Rodlen Labs)	0.025%	Relief of arthritic pain
Antiacne			
Tretinoin cream	Retin-A (Ortho McNeil)	0.025%, 0.05%, 0.1%	Derivative of vitamin A for topical treatment of acne vulgaris
Antianginal			
Nitroglycerin ointment	Nitro-Bid Ointment (Fougera)	2%	Reduces workload of heart by smooth muscle relaxation of peripheral arteries and veins
Antibacterial/Anti-infectives			
Gentamicin sulfate cream, ointment	Garamycin Cream and Ointment (Schering)	0.1%	Local treatment of skin infections by susceptible microorganisms
Mupirocin calcium cream	Bactroban Cream	2%	Treatment of secondarily infected skin lesions due to susceptible strains of *S. aureus* and *S. pyogenes* Oil-in-water based emulsion
Mupirocin calcium ointment	Bactroban Nasal Ointment	2%	Indicated for eradication of nasal colonization of methicillin-resistant *S. aureus*. Petrolatum based vehicle
Mupirocin ointment	Bactroban Ointment	2%	Vehicle of water-miscible polyethylene glycols
Nystatin cream	Mycostatin Cream (Bristol-Myers Squibb)	100,000 U/g	Local treatment of skin infections by susceptible microorganisms
Polymyxin B sulfate, bacitracin zinc, neomycin ointment	Neosporin Ointment (Pfizer Consumer Health)	5000 U/g polymyxin B; 400 U/g bacitracin zinc; 3.5 mg/g neomycin	Treatment of minor cuts, scrapes
Retapamulin ointment	Altabax Ointment	1%	Treatment of impetigo

(*continued*)

Thank you